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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/025,345	02/18/1998	JERALD C. HINSHAW	2507-5818.1US(21494-US-09	9478

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10/16/2003

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EXAMINER

MILLER, EDWARD A

ART UNIT	PAPER NUMBER
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3641

DATE MAILED: 10/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/025,345

Applicant(s)

HINSHAW ET AL.

Examiner

Edward A. Miller

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 April 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 83-117 is/are pending in the application.
- 4a) Of the above claim(s) 92-96, 98-101 and 103-113 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 83-91, 97, 102 and 114-117 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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1. This application has been taken up pursuant to the decision of the Honorable Board of Patent Appeals and Interferences, in which the examiner was affirmed in part. Subsequent to the decision, applicants submitted an amendment that improved the form of the claims in view of the decision, including changing the dependency of a number of claims, as the rejection of claim 1 was affirmed (in part). The originally elected species was to cobalt ammine nitrate with calcium stearate. Since the instant amended claims include generic claims and claims drawn to species that were not previously examined as non-elected, compare MPEP 803.02, applicant is entitled to have claims previously non-elected examined. Therefore, prosecution is reopened, and new rejections, as appropriate at this time in view of newly discovered prior art, follow.

The prior election remains in effect, but the examiner has expanded the search to include additional species. As a result of the instant amendments, claims 83-91, 102 and 114-117 are generic. Claim 97 contains an elected cobalt ammine nitrate. Claims 92-96, 98-101, and 103-113 remain non-elected. Action on the amended claims follows to the extent appropriate in accordance with ordinary Office practice, MPEP 803.02. As to any claims previously indicated allowable, but now rejected based on newly found references, the delay in finding these references is regretted.

2. The question of benefit under 35 USC 120 has been considered. In this continuation-in-part application, added subject matter includes the N and H containing ligand language, oxidizer amounts less than 50%, and additives including binder, release agent, carbon, etc., all found in the instant claims. Therefore, the benefit of parent application SN 08/184,456 is denied since the instant claims are not supported in the manner of 35 USC 112, 1st paragraph, as required by 35 USC 120.

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 83-91, 97, 102 and 114-117 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

These claims are indefinite since the language “formulated for generating gas suitable for use in deploying an air bag or balloon from a supplemental restraint system,” in claim 83, lines 1-2, and similar language in claims 84, 85, 116 and 117 (including “gas suitable for use...” in claim 117, line 4) is indefinite. In Paper No. 14, a similar rejection was made, and applicants argued a broad meaning of the term, but which broad meaning overcome the prior rejection. However, in the Appellants’ Brief on Appeal, appellants made arguments that gave a new, narrow meaning to this same language. The Board relied on this new, differently argued meaning for the language, as set forth in its decision, Paper No 33, page 3, the last complete paragraph on the page. This argument of appellants lacked any proper, factual basis. This language must be considered indefinite when fully considered by one ordinarily skilled in the art, as follows.

As is notoriously well known in the art, there are any number of different kinds of apparatus that may be used to generate gas for an air bag inflation system. These include pyrotechnic and hybrid (pyrotechnic propellant combined with stored compressed gas) technologies. In either case, the gas generated from a pyrotechnic gas generating composition may be filtered or treated in a number of different ways. It is well known that the end product gas to inflate the air bag should be, as a whole, non-toxic. Regarding after treatments, see Poole et al. ‘854, where the gas generator reaction product gas may be cooled, filtered, and additional oxygen gas may be produced afterwards. In Rink et al., ‘473, there is one type of hybrid generator, where the pressurized gas includes not only inert gases, but also oxygen gas to react with unburned fuel. See, for example, col. 8, lines 36-44, as

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well as col. 9-10 where the oxygen rich gas is taught. See also Frey et al., '740, col. 5, lines 46-64, wherein products of combustion of a solid ignitable material are further combusted by the oxygen in the gas mixture. Frey et al. include additional embodiments through a seventh embodiment in col. 12. In the sixth embodiment, col. 9, lines 65-68, includes a mixture of fuel, inert and oxidizer gases, where the end result is suitable for air bags. In col. 10, propellant material 326, is at lines 44-55. In col. 11, lines 21-68, the propellant emits vapors and hot particles, and by lines 53-68 of col. 11, it is clear that all the gases interact, the fuel products in the presence of additional oxygen, such as to produce a gaseous mixture suitable to inflate the air bag. This is further set forth in Sides et al., '141, as to which the benefit of its parent application date is warranted. Further, Poole et al. '549 in the Abstract and col. 1-2 teach an arrangement where outside air is aspirated into the gas product of combustion to make the gas product suitably non-toxic for air bag use.

Considering applicants' language and its argued meaning, alleging that the gas generated by combustion of the gas generating propellant must per se be suitable to inflate an air bag is incorrect. The claims at bar are composition claims, unlimited as to use in any given apparatus. There are many different kinds of apparatus, which may have any number of scenarios for after-reaction, after-treatment, etc. The recitation of "suitable for use" as argued, imbues indefinite metes and bounds, and cannot be understood because the kind of gas generating apparatus, and the entirety of the air bag device, is a different invention and at least not defined in the claims. To state that the gas reaction products of the applied prior art, such as Hommel, are "unsuitable" for such use is without basis. Appellants' Appeal Brief, Paper No. 27, for example, pages 11-13, made affirmative factual statements to that effect. However, there is no embodiment in the instant claims of apparatus and steps of use, for which the gas reaction product is directly introduced into an airbag without treatment, in any claim. Appellants did not urge a lack of facts by the examiner, but instead

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affirmatively argued factual inoperability in the references, such as Hommel. It is not clear if implicitly this argued language requires implied, but not stated, limitations on ingredients, amounts, or on the apparatus in which one desires to use the gas generating composition.

In further explanation, See Catanzarite '351, where an early modern air bag apparatus and gas generating composition is taught. As taught at col. 9, lines 52-57, the gas generator composition may be protected from the environment by a hermetic seal. In col. 11, lines 11-44, the configuration of the set up may be varied to reduce the reaction rate or combustion temperature and speed. The progression of the reaction in one setup is detailed in col. 18, lines 12-46. Further, in col. 19, lines 3-41, one may have intermixed or successive layers which individually ignite. Reaction temperature of one part of the gas generating composition is not an overall controlling factor. One reason this reference was cited is that it is from early times of modern air bag technology. As to ammonium nitrate gas generating compositions for air bag use, see, e.g., Hamilton et al. '285, in the Abstract, Garner '747 and '562 in the Abstract of each, Seldner '327, col. 1, lines 10-11 and col. 2, line 38, Lohr '115, the Abstract, col. 10, lines 62-64, and claims 10, 15 and 18, Poole et al., '549, claims 6 and 14, last line of each, Goldstein et al., '382, (newly cited) col. 8, lines 8-17, the paragraph bridging col. 8-9, and col. 9, lines 48- col. 10, line 37, Poole '941 (newly cited), the Abstract with PSAN, and Poole et al., '272 (newly cited), also the Abstract. Many of these were cited by and thus obviously known to appellants. Since appellants urged that the "suitable" claim language eliminated references because, e.g., Hommel was unsuitable, it is not clear what the "suitable" language actually requires. To the contrary, it is well known in the prior art that compositions "comprising" AN or PSAN, even with more than 90% AN, are taught and notoriously well known by those of ordinary skill in the art as in fact being suitable for air bag use. To deny these facts is to urge inoperability of patented inventions, which is unacceptable before the USPTO. It is not clear what the noted

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language actually requires in applicants' instant claims, whereby the noted references are not suitable, while appellants' claimed compositions are suitable.

This is particularly the case since there is no limitation on ingredients or amounts in view of the "comprising" scope of the claims, which allows even major modifications of the applicants' invention. In this question of claim scope, "comprising" vs. "consisting essentially of," see *In re Janakirama-Rao*, 137 USPQ 893 (CCPA 1963), and *Ex parte Davis*, 80 USPQ 448 (PO BA 1948) cited therein. Therein, "comprising" leaves the claims open for the inclusion of unspecified ingredients even in major amounts, while recital of "essentially" along with "consisting of" renders the claim open only for the inclusion of unspecified ingredients which do not materially affect the basic and novel characteristics of the composition. In view of the "consisting essentially of" meaning, "which do[es] not materially affect the basic and novel properties", it is clear that "comprising" alone does allow "materially affecting the basic and novel properties." Here the properties include the content of the gas, and its suitability for use in an air bag.

In claim 102, penultimate line, "of said complex and said anion" is indefinite since the anion is part of the complex compound, while this appears to require a different form of measurement. Thus, it is not clear what this language actually requires.

For these reasons, this noted terminology is indefinite, and it is not clear what the metes and bounds of the claim terminology, e.g., the claims, is.

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has

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fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Thus, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

7. Claims 85, 87, 89-91 and 116-117 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Lund et al. '758.

Lund et al. teach gas generator compositions for inflating air bags, in the Abstract. See Example 7, col. 9, lines 15-46, where the fuel/complex is Zinc (aminotriazole) nitrate of Example 4, col. 8, lines 1-12. Aminotriazole, as claimed, "includes nitrogen and hydrogen" and is thus within applicants' genus for N and H containing ligands. The NO₂ oxidizing anion does not contain carbon. The amounts are within those claimed. From col. 6, lines 19-23, a binder is ordinarily included. Among these binders is MoS₂, molybdenum disulfide. It is submitted that at least the broad claims are anticipated by this teaching to ordinarily use 1-2% of binder, and that it would at least have been obvious to use MoS₂ binder, as taught therein. Thus, the limitations of these claims are anticipated, or at least clearly obvious. It is clear that the same compound, MoS₂, will have the same properties, regardless of whether it is characterized as a binder, lubricant, or release agent as claimed, e.g., in claim 85.

8. Claims 85, 87, 89-91 and 116-117 are rejected under 35 U.S.C. 102(e) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Hamilton et al. '704.

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See col. 7, lines 18-22, as well as line 65 for the definition of “ZNH.” See also col. 8, lines 5-11. It would be inherent that some of the metal oxide compounds would act as release agents. However, processing aids are taught by col. 3, lines 45-52, and also at col. 6, lines 8-10. Thus, at the least, it would have been obvious to use the notoriously well known molybdenum sulfide as a release agent/processing aid. M

9. Claims 83-87, 89-91, 102, and 114-117 are rejected under 35 U.S.C. 103(a) as being unpatentable over Poole et al. ‘272 in view of Oberth, Poole ‘941, Schneider et al., ‘495, and further in view of Lund et al. ‘758, Wardle et al. ‘534, and Flanigan et al., ‘540.

Poole et al. ‘272 teach gas generating compositions of PSAN. As shown, the PSAN is prepared by co-precipitation. As such, it is regarded that the stabilizer is part of a large inorganic oxidizer compound, as opposed to a mere mixture, whereby the phase stabilization is obtained due to modification of the crystal structure of a large macromolecule. This is believed in accordance with the broad claim language. Thus, the AN part is not a supplemental oxidizer, but a chemical part of the primary oxidizer “compound.” Oberth further shows such with polymer binders, and that such burn clean. Poole ‘941 is similar to Poole et al. ‘272. Schneider et al. also suggest the use of rocket propellant technology for air bag use. In view of the “further in view of” references, substitution of common physical agents such as release agents, etc., would have been obvious to one of ordinary skill in the art. See, for example, Lund et al. ‘758, col. 6, lines 18-24, Wardle et al. ‘534, col. 3, line 64-col. 4, line 19, especially lines 16-19, and Flanigan et al., ‘540, col. 9, lines 1-18. Variation of amounts of notoriously well known ingredients would have been obvious. It is well settled that optimizing a result effective variable is well within the expected ability of a person of ordinary skill in the subject art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980), *In re Aller*, 220 F.2d 454, 105 USPQ 233 (CCPA 1955).

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10. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

11. Claims 83-91, 97, 102 and 114-117 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-31 of U.S. Patent No. 5,673,935, claims 1-39 and 45-59 of U.S. Patent No. 6,039,820, and claims 1-12 of U.S. Patent No. 6,481,746. Although the conflicting claims are not identical, they are not patentably distinct from each other because of clear overlap. As to the '746 patent, if the instant claims were limited to the ammine complexes, then this rejection would be overcome as to said '746 patent, which are drawn to compositions with metal hydrazine complexes.

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

13. Any inquiry concerning either this or an earlier communication from the Examiner should be directed to Examiner Edward A. Miller at (703) 306-4163. Examiner Miller may normally be reached Monday-Thursday, from 10 AM to 7 PM.

If attempts to reach Examiner Miller by telephone are unsuccessful, his supervisor Mr. Carone can be reached at (703) 306-4198.

If there is no answer, or for any inquiry of a general nature or relating to the application status, please call the Group receptionist at (703) 308-1113.

Miller/em
October 6, 2003

EDWARD A. MILLER
PRIMARY EXAMINER